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[redacted] 25X1

Ref: 1305-0D-120

19 March 1965

[redacted] 25X1

Post Office Box 9474
Rosslyn Station
Arlington, Virginia 22209

Subject: [redacted] Project SC-1305 25X1
Progress Report, February/March 1965

Gentlemen,

Enclosed are four (4) copies of [redacted] Progress 25X1
Report on Project SC-1305 for the period February/March 1965.

Very truly yours,

[redacted] 25X1

Vice President - Marketing

RJL/de
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PROGRESS REPORT

For

AUTOMATIC STEREO CORRELATOR

SC 1305

"Construction of Breadboard System of an Automatic Stereo Correlator and Evaluation of the Performance Capabilities of such a System."

Period Covered:	February - March 1965
Date:	18 March 1965
Job No.:	SC 1305
Document No.:	OD-118

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This is the seventh monthly progress report.

TASK OBJECTIVE

To manufacture a breadboard and to conduct sufficient tests to determine the performance capabilities inherent in a system of automatic stereo correlation as described in the 552 MSC proposal.

CURRENT STATUS OF WORK

1) Closed loop tests of the X axis have been made. Stereo Correlation with a simple target was obtained over a limited field of view. There are a number of problems to be solved before reliable correlation is achieved.

2) Satisfactory closed loop performance of the intensity control system was achieved. After several days of good operation, a malfunction, probably due to faulty soldering or a faulty component, disabled the system. In order not to delay correlation tests, manual control of the light sources was substituted.

PROBLEM AREAS ENCOUNTERED

1) Due to the lack of familiarity of personnel with the Vector terminals used on the breadboard, a considerable amount of cold soldered connections were found.

2) In the troubleshooting required to pin down the cold soldering, etc., several transistors were damaged because the system is designed as a breadboard and in some areas, maintainability could be improved.

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3) The system is overly sensitive to changes of light level. The fact that the signal to amplitude converter has a discrete signal threshold seems to be the main cause. Prebiasing has been used to reduce the threshold, but further work is required. The problem is analagous to the reduction of crossover distortion at low levels in class B push-pull amplifiers.

4) Better damping at adequate gain levels is required to reduce hunting of the X and Y axes servo systems. This problem may be more acute in the θ axis servo system due to the shorter slew time. Standard damping techniques should eliminate this difficulty.

DOCUMENTATION OF VERBAL COMMITMENTS AND/OR AGREEMENTS

None have been made.

PROJECTED WORK FOR NEXT PERIOD

1) All servo functions to be made operational.

2) Evaluation of system performance without fiber optic cable and image enhancer. (Subsequent test to be made with fiber optic cable.)

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